

ISOETES ORCUTTII A. A. Eaton.

In moist swales in sandy soil under pines at Cambria (6948, 7855). The plants which I have identified as *I. orcuttii* may simply be individuals of *I. nuttallii* which average smaller in all of their parts. In any case, size differences do exist between the plants at Cambria and those in the mountains above.

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DEPARTMENT OF BIOLOGICAL SCIENCES, CALIFORNIA STATE
POLYTECHNIC COLLEGE, SAN LUIS OBISPO, CALIFORNIA 93401.

Native Ferns in a Tennessee Wild Garden

HELEN BULLARD KRECHNIAK

Ferns are so plentiful on the Cumberland Plateau in Tennessee where I live that years ago I had dozens brought in from the woods to plant about our log cabin on a wooded hillside. But not until we built a small pond in the ravine behind the cabin and cleared the brush and weed trees from the surrounding hills did I begin my long-cherished plan to develop this area as a wild landscape. Native ferns, it seemed to me, would be the best, as well as the cheapest, means of enhancing the natural beauty of the area. Used with the wealth of Mountain Laurel, Rhododendron, Flame and Pink Azalea, equally available, and some already there, ferns should heighten the effect of the wild landscape. Dogwood is everywhere!

By the time my yard boys and I had brought several loads of ferns from the already staked right-of-way for the new Interstate Highway about half a mile away, I began to realize that I was moving too fast and in unknown territory. I sought help from an old friend, an amateur naturalist of long experience with Plateau and Great Smokies flora and fauna. He loaned me his copy of Jesse M. Shaver's book, *Ferns of Tennessee*. This excellent and lovingly put together study disclosed that my Ozone area, 60 miles west of Knoxville on U. S. Highway 70, was a rich repository of fern species, all sandstone types. About 20 species were listed as growing along our Fall Creek.

Soon afterward a coincidence put me in touch with a nationally known fern enthusiast in Niles, Michigan. Kay Boydston sent me much fern material on loan, including back issues of the *AMERICAN FERN JOURNAL*, and excellent advice. I began to learn the possible scope of my undertaking and to approach my fern collecting with serious study. I soon decided to limit my garden and my study to ferns of the Ozone area, and to keep a simple herbarium. Surprisingly, to me at least, I have found and identified 32 species, all but five of which I have managed to establish in my fern gardens.

In the beginning I had tried simply to provide the ferns I brought into my garden with conditions resembling those from which I had dug them. With study I could work with more assurance, although this simple principle is still the cardinal one. The acid soil and semi-shade from which most of them were taken is about all my oak- and pine-covered dry hillside has to offer. On this, only the Christmas Fern and Leatherwood Fern will endure in places too distant for watering. But in the beds which can be watered during the dry spells—which occur almost every year in August and September—careful preparation by terracing, digging deeply, and incorporation of well-rooted sawdust and rotted manure, has produced fine stands of ferns. A thick mulch of old sawdust is maintained at all times.

During the four years since we made the pond, I have brought in more than 2,000 ferns, most of which are thriving. Since two of the summers brought severe drought and one winter was the coldest on record, I believe the ferns which have survived are safe.



FIGURE 1. FERN GARDEN ALONG A ROCK WALL, INCLUDING *DRYOPTERIS MARGINALIS*, *ADIANTUM PEDATUM*, *POLYSTICHUM ACROSTICHOIDES*, *ASPLENium PLATYNEURON* AND *CAMPTOSORUS RHIZOPHYLLUS*. (PHOTOGRAPH BY JOHN D. KAVICH.)

One long bed near the pond is kept moist to suit the needs of the ferns there, which include all but the wet-loving species. Cinnamon Fern, Royal Fern, and Sensitive Fern, and other moisture-demanding species are at the head of the pond and behind the 120-foot dam where the spring branch resumes its flow to the gulf. This spring some of the over-exuberant species, such as Hay-scented Fern and New York Fern, which serve

admirably in covering raw features like stumps, will have to be disciplined.

With the basic landscape design set, the Laurel, Rhododendron, Stewartia, and other wild shrubs and ferns thriving, it is sheer pleasure in the spring to add clumps of wild flowers in suitable spots. A new drift of bird-foot violets and a broad colony of yellow *Trillium* surrounded by ferns are adequate reward for all the effort and patience expended on the plantings.

My 2,000 ferns seem all too few and I can see myself trailing the bulldozers which soon will come to tear a cut through the wonderful talus slope overlooking Fall Creek, and bringing home another 2,000 ferns for a new area. I may even get them planted if the increasing flood of visitors, wishing to see my wild garden, does not keep me talking away all of the daylight hours.

OZONE, TENNESSEE

***Isoetes echinospora* var. *braunii* in Interior Alaska**

VERNON L. HARMS

Isoetes echinospora Dur. var. *braunii* (Dur.) Engelm. (including var. *maritima* and var. *truncata*) has previously been reported in Alaska only from the Pacific Coast regions of the Aleutian Islands, Kodiak Island, and southeastern Alaska (*Fig. 1*). A collection of *Isoetes* made by Eyerman in 1939 from Prince William Sound, Alaska, was referred by Boivin (1961) to *I. asiatica* (Makino) Makino (*I. echinospora* var. *asiatica* Makino), apparently representing the first report of this entity in North America. In northwestern Canada, distributional records for *I. echinospora* var. *braunii* have been cited (*Fig. 1*) for northeastern Alberta from Lake Athabasca (Porsild, 1943), for Mackenzie District from Prelude Lake near Yellowknife (Thieret, 1963) and Great Bear Lake (Porsild, 1943), and for southeastern Yukon from Sheldon Lake along the Canol Road (Porsild, 1951). The latter collection was noted by Porsild as con-